



The City of Raleigh

Stormwater Management Advisory Commission

October 4, 2018

3:00 pm

Conference Room 305
Raleigh Municipal Building

Commission Members Present: Matthew Starr, David Markwood, Ken Carper, Vanessa Fleischmann, Francine Durso, David Webb, Chris Bostic, Jonathan Page, and Evan Kane

Staff Members Present: Wayne Miles, Kelly Daniel, Suzette Mitchell, Scott Smith, Justin Harcum, Amy Farinelli, Heather Dutra, Ben Brown, Lauren Witherspoon, Jonathan McNeill, Veronica High, Kevin Boyer, Craig Deal, Brad Cole, Melanie Nguyen, Scott Bryant, Ashley Rodgers, and Wenju Zhang

Commission Members Absent: Mark Senior

Guests: Jay Jayakrishnan, Roni Ray, Stephanie Hanier, Ryan Smith, Brenan Birky, Nyssa Ndey-Booge, and Marsha Presnette-Jeanette

Meeting called to order: 3:00 pm by Matthew Starr

1. **Welcome, Introductions, Excused and Unexcused Absence**

- **Mr. Webb** made a motion to excuse **Mark Senior** from today's meeting, and **Mr. Carper** seconded. The motion was approved unanimously.

2. **September 6 Minutes for Approval**

- **Ms. Fleischmann** made a motion to approve the minutes and **Mr. Page** seconded. The motion was approved unanimously.

3. **Stormwater Staff Report** (*Wayne Miles*)

- **Staffing Updates** – (*New*)
 - Stormwater Control Measures (SCM) Group: Laura Johnson (*Engineering Specialist*) and Jennifer Lubik (*Administrative Specialist*)
 - Asset Management - Colt Clarson (*GIS Specialist*)
- **"Imagine a Day without Water"** – The City will be hosting this event on October 10 at Raleigh Union Station. The event will include a water bar, a panel discussion on the value of water (*Ms. Durso is a panelist and Wayne Miles is the moderator*), and a tour of several green stormwater infrastructure sites.
- **Hot Topics** –
 - Clark Avenue culvert failure (*near Bellwood Dr./Peace St.*) – A 60-inch corrugated metal pipe (CMP) headwall/sidewalk failure. WK Dickson is hired for design services and Carolina CivilWorks for construction. The goal is for construction to be completed before Thanksgiving.

- Lake Wheeler Road culvert failure (*near the Farmer's Market*) – A 72-inch CMP failure near headwall. Transportation Field Services will do the construction in-house. Staff is anticipating the pipes (*special order*) taking several months to be delivered and construction starting by the end of the year. Once the repair begins, the road will be completely closed for two months or more.
- Rain Barrel Program Update (*Amy Farinelli*) - Two local vendors are selling rain barrels (*EPOC Rain Barrels & Rain Water Solution*) at a discounted rate and have created their own landing page for City residents to go on and purchase. The rain barrel education and resource webpage were launched on September 18.

Commission Comments:

- Add: "rain barrels at a discounted rate" on Stormwater's information webpage
- Receive a quarterly report on the number of purchases through vendor websites
- Do a social media blast

4. Raleigh Rainwater Rewards Program (Kevin Boyer)

Kevin Boyer revisited this topic from the Commission retreat in July. He provided a brief overview of the program, the nitrogen and load reduction, the project cost/benefit metric (*cost of nitrogen per pound, per year*) and the options for consideration.

Options:

- 1) How the cost/benefit metric should be presented:
 - No change cost per pound per year
 - Change to base on assumed SCM life
- 2) Whether/How to cap the cost/benefit metric
 - No change (no cap)
 - Select cap amount

Commission Comments:

Ms. Durso asked where the percent reduction came from. **Kevin Boyer** replied from the design criteria of the state stormwater manual. **Ms. Durso** commented the analysis that was presented was very helpful in showing where we've been, the changes since 2015, seeing all the cost for everything together, and where it's coming out compared to that.

Mr. Starr said he remembers how expensive the projects were just for the permeable pavers prior to the City removing the \$5 per square feet, and it appears it's comparable to the three projects we approved since then. He stated this is a good step in the right direction.

Mr. Kane mentioned, factoring in the lifespan seems to make more sense. The cost metric of pounds per nitrogen removed, in the amount of money it takes to get that out, seems more of a real-world measure when multiplying in the lifespan of the measure. At the same time, the pounds of nitrogen per year annually going to watersheds is an ecological measure of interest. He's split on that. He said if we would go to an assumed life, his preference would be hinged on the maintenance commitment.

Mr. Starr said there's no reason why we can't see both, and we don't have to choose either/or. He stated what the Commission would like to see is the per year, the maintenance term, and the total for maintenance term.

5. Raleigh Rainwater Rewards Project Applications

Justin Harcum presented two projects for review and he specified these projects started prior to approval.

Project #1 (2905 Ashwell Ct.) - Complete the installation of a 650-gallon above-ground cistern at the residence. The project is in the Walnut Creek watershed and is eligible for 75 percent reimbursement.

2905 Ashwell Court	
Stormwater/City Contribution (75%)	\$1,946
Petitioner Contribution (25%)	\$649
Total	\$2,595

Project #2 (313 Merwin Rd.) - Complete the installation of a 135-square-foot rain garden at the residence. The project is in the Bushy Branch watershed and is eligible for 75 percent reimbursement.

313 Merwin Road	
Stormwater/City Contribution (75%)	\$3,611
Petitioner Contribution (25%)	\$1,204
Total	\$4,815

Motion:

Mr. Kane made a motion to approve the two projects, and **Mr. Webb** seconded. The motion was passed unanimously.

6. Hurricane Florence Preparation and Response

Wayne Miles first commended staff on their contribution in this event. He stated that staff will provide an update on their preparation and response to the event and how these methods will aid future weather events. He added that it was the first time the Stormwater Management Division had a permanent presence in the Emergency Operations Center (EOC).

Presentation Summary -

- City-owned Dams (*Brad Cole*)
 - September 7 - Preparations began, all emergency action plans were gathered and placed in a specific location, and staff discussed drawdown of specific ponds/lakes.
 - September 10 - Staff started opening the drains. Lake Johnson was dropped six feet while other locations were dropped only two feet.
 - September 16 & 17 - Staff started closing bottom drain valves on lakes and ponds (*some challenging*).
 - Next steps - Checking into a bridge and automatic controls at Lake Johnson and contact NC State for operation of Lake Raleigh.
- Updated US Geological Survey (USGS) Gauge Dashboard (*Kelly Daniel & Craig Deal*)
 - Prior to storm - Added Walnut Creek stream gauges to dashboard, the warnings and action levels were set up for Walnut Creek and added the function to zoom in on each gauge.
 - During the storm - Updated map with radar overlay (*greenway trails, legend, selectable layers, and search feature*), gauges updated to show all readings, and coordinated with Transportation/Police (*working with Transportation to purchase web cameras and install around areas that are prone to flooding and stream gauges locations*).
 - Next Steps - Review and update warning and action levels on gauges, add rain gauge data when available, add Lake Johnson gauge to dashboard, run reports from dashboard, and work with USGS on updating reporting frequency and verifying datum.
- Floodplain Notification and Reverse 911 Calls (*Wayne Miles*)
 - Staff set-up and initiated a reverse 911 to notify residents who live in or near a floodplain. Worked with Public Utilities' Customer Care and Billing database and GIS to intersect the database with our floodplain. Sent nearly 26,000 emergency notifications alerting residents of possible flooding and to make provisions to seek higher ground (*notification generated a lot of calls to the Division and EOC non-emergency number*).

- Refinement - Will be working with GIS to refine the buffer analysis and will be working with Public Utilities to streamline the process.
 - Issues - Had to notify multi-family residential units (*i.e. apartments*) with master meters. Fliers were put together and given to the Fire Department to hand-deliver to the residents. Forgot to include Spanish on the flyer (*will in the future*).
 - Social Media – Sent out additional floodplain information on Twitter. Directed residents to go on the website to look up more hurricane information.
 - Lesson learned – To include other languages (*i.e. Spanish*) on the fliers.
- EOC Activation and Staffing (*Wayne Miles*) –
 - Six Stormwater staff – two employees on each team worked rotating 12-hour shifts.

7. **Project Update – Lake Dam Road Bridge Replacement Project**

Veronica High reported that staff is involved in a bridge replacement project, but funding is coming from another source. However, the Stormwater Management Division has a vested interest in ensuring the structure that's over a significant part of the stream (*Walnut Creek*) is properly permitted and replaced. She provided a brief history and noted in 2012, North Carolina Department of Transportation (NCDOT) noticed some deterioration while inspecting the bridge. In 2014, a City inspection determined the bridge had developed more deterioration, so an executive decision was made to close the road due to safety concerns. Staff thought the bridge could be repaired but it was determined it had to be replaced. The City negotiated an agreement with NCDOT in 2015 and to expediate the process the City agreed to fund 100 percent of the design. The design was completed in February 2018 with construction starting in November 2018 and expected to be completed in the fall of 2019.

Mr. Kane asked will there be a life-span expectancy that the Stormwater Management Division will be replacing bridges around the city when they deteriorate, is it a new standard for the Stormwater program being involved in bridge replacement projects, and why this was not strictly handled by the Transportation Department. **Veronica High** answered that a good deal of the bridge replacements is handled through Transportation Services, but from an Asset Management standpoint, Stormwater will be working with them. She believes this project was taken over by Stormwater because of staff capacity. Transportation Department was working on several bond projects and ask if we could provide a project engineer to help facilitate this along since there is community interest in opening the road back up.

8. **Public Comment**

No public comment.

9. **Other Business**

No other business.

Adjournment: Since there was no further business, **Mr. Carper** made a motion to adjourn and **Mr. Kane** seconded. The motion was passed unanimously. The meeting adjourned at 4:49 pm.

Suzette Mitchell